

Algorithmic and combinatorial methods for computing the relators of a group presentation

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Abstract

The main achievement of this paper is an algorithm which given a finite group presentation and natural numbers k and n , computes all the relators of length and area up to k and n respectively. The complexity of this algorithm is less by a factor of at least $a^{k^2} a^{kn}$ than that of the classical method using van Kampen diagrams (a is a constant).

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A new version of this paper with improved results will be available soon.
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